

REMARKS/ARGUMENTS

The Office Action mailed August 15, 2003 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. The claims presented for examination are: claims 1-16.

Drawings

In numbered paragraph 1 of the Office Action mailed August 15, 2003, the drawings were objected to under 35 CFR 1.83(a) because they fail to show element 30 in Figure 2 and element 54 in Figure 3 as described in the specification. Applicants are submitting a new set of formal drawings by a separate letter to the Office Draftsman. The new set of formal drawings includes element 30 in Figure 2 and element 54 in Figure 3. Applicants believe the new drawings overcome the objection to the drawings.

35 USC 101 Rejection

In numbered paragraph 3 of the Office Action mailed August 15, 2003, claims 1-12 were rejected under 35 USC 101 as being directed to non-statutory matter in that reference to "said tissue" inferentially claims the human body. The Examiner suggested changing "said tissue" to - - the tissue - -. Applicants have amended the claims to change "said tissue" to - - the tissue - -.

35 USC 112 Rejection

In numbered paragraph 5 of the Office Action mailed August 15, 2003, claims 1-16 were rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The allegation was made that "It is unclear from the disclosure how the compensation achieved." Applicants submit that the specification contains details sufficient for one skilled the art to make and use the invention defined by claims 1 - 16. Amended claim 1 includes the element, "a

compensation system that utilizes said reference signal to correct said emission signal for optical fluctuations." The specification, in paragraph 0024, includes the following descriptions of the compensation, "The reference fiber that is integrated into the probe cable improves the device accuracy by reducing the effects of optical source fluctuations and changes in the fiber optic efficiency" and "For example, compensation may be provided for fluctuations in light delivery to the tip of the probe due to cable motion by measuring signals of the reference fiber. Fluctuations may occur for a variety of reasons including losses through the fiber due to bends in the fiber."

Applicants submit that the specification contains sufficient information for one skilled in the art to make and use the invention. Not everything necessary to practice the invention need be disclosed. In re Buchner, 929 F.2d 660, 661 (Fed. Cir. 1991). Applicants submit (1) there is considerable direction and guidance in the specification regarding compensation, (2) there was a high level of skill in the art at the time the application was filed, and (3) all of the information needed for compensation to practice the invention was well known.

#### 35 USC 103 Rejection

In numbered paragraph 7 of the Office Action mailed August 15, 2003 claims 1-16 were rejected under 35 USC 103(a) as being unpatentable over the Boppart et al reference (US Patent No. 6,485,413).

The Boppart et al reference shows, "An imaging system for performing forward scanning imaging for application to therapeutic and diagnostic devices used in medical procedures. The imaging system includes forward directed optical coherence tomography (OCT), and non-retroreflected forward scanning OCT. Also interferometric imaging and ranging techniques and fluorescent, Raman, two-photon, and diffuse wave imaging can be used. The forward scanning mechanisms include a cam attached to a motor, pneumatic devices, a

pivoting device, piezoelectric transducers, electrostatic driven slides for substantially transverse scanning; counter-rotating prisms, and offset lenses are used for arbitrary scanning. The imaging system of the invention is applied to hand held probes including probes integrated with surgical probes, scalpels, scissors, forceps and biopsy instruments. Hand held probes include forward scanning lasers. The imaging system is also applicable to laparoscopes and endoscopes for diagnostic and therapeutic intervention in body orifices, canals, tubes, ducts, vessels and cavities of the body. The imaging system includes application to surgical and high numerical aperture microscopes. An important application of the invention is implantation of the optical probe for periodic or continuous extraction of information from the tissue site where implanted."

The Examiner made particular reference to col. 7, lines 10-16 and Figure 2 of the Boppart et al reference. That portion of the Boppart et al reference shows, "Referring to FIG. 2, the optical source 10 is coupled to a 2:2 fiber optic splitter 14 containing paths to a reference mirror 18 (corner cube) and to a probe unit 22 that illuminates the sample. ... The light from the receiver port 30 is recombined with the light reflected from reference mirror 18 into a 50/50 optical combiner 34 to form signals that enter the receiver processor 38 whose output is analyzed by a computer 42."

The present invention, for example as defined by amended claim 1, comprises the following combination of elements:

- a laser means for generating an emission signal and a reference signal,
- a probe that directs said emission signal to the tissue,
- an emission optical detector,
- a reference optical detector,
- a transmission system including an emission optical fiber that transmits said emission signal to said probe and from said probe to the tissue, and from the

tissue to said probe and to said emission optical detector, and a reference optical fiber that transmits said reference signal to said probe and from said probe to said reference optical detector, and

a compensation system that utilizes said reference signal to correct said emission signal for optical fluctuations.

Applicants respectfully submit that the Boppart et al reference does not show the claimed combination of elements and does not supply a teaching that would suggest the claimed combination of elements. The Boppart et al reference uses "a reference mirror 18" and does not show or suggest the claimed reference optical fiber that transmits said reference signal to said probe and from said probe to said reference optical detector.

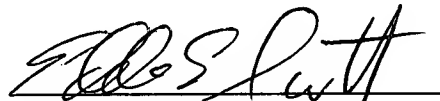
#### IDS Statement Re-Submitted

In numbered paragraph 7 of the Office Action mailed August 15, 2003, Applicants were requested to re-submit the IDS statement because "it is missing from the file." Applicants are enclosing the requested IDS statement.

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated August 15, 2003 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



Eddie E. Scott  
Attorney for Applicant  
Registration No. 25,220  
Tel. No. (925) 424-6897

Livermore, California  
Dated: October 8, 2003